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L59  ANSWER 1 OF 22  HCAPLUS  COPYRIGHT 2008 ACS on STN
AN   2005:280670  HCAPLUS  Full-text
DN   142:357457
TI   Process for the preparation of carbon black
     or other flame aerosols and apparatus for carrying out
     the process.
IN   Fiebel, Ulrich
PA   Germany
SO   Ger. Offen., 11 pp.
     CODEN: GWXXBX
DT   Patent
LA   German
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
     --------------      ----   --------   -------------------    --------
PI   DE 10340884         A1     20050331   DE 2003-10340884       20030904 <--
     CA 2536649          A1     20050414   CA 2004-2536649        20040824 <--
     WO 2005033217       A1     20050414   WO 2004-EP9439         20040824 <--
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
             GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
             LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO,
             NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,
             TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
             SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
             SN, TD, TG
```

	EP 1660594	A1	20060531	EP 2004-764417	20040824	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK					
	CN 1845972	A	20061011	CN 2004-80025273	20040824	<--
	BR 2004014133	A	20061031	BR 2004-14133	20040824	<--
	JP 2007504308	T	20070301	JP 2006-525074	20040824	<--
	IN 2006KN00421	A	20070525	IN 2006-KN421	20060223	<--
	MX 2006PA02244	A	20060831	MX 2006-PA2244	20060227	<--
	US 20070043157	A1	20070222	US 2006-570424	20060302	<--
PRAI	DE 2003-10340884	A	20030904	<--		
	WO 2004-EP9439	W	20040824	<--		

AB A process for the production of large amts. of carbon black or other flame aerosols that is simple and of low cost is described. The process consists of the following steps: removal of the heat from the flame by heat dissipation and/or convection, formation of a thin gas boundary layer, acceleration and/or stretching of the flow formed by the flame and the boundary layer, leading off the formed aerosol and cleaning the cooling surface. The apparatus is also described in detail.

IC ICM C09C0001-48

CC 49-1 (Industrial Inorganic Chemicals)
Section cross-reference(s): 47

ST carbon black flame aerosol prodn app

IT Reactors
(flame aerosol; process for production of carbon black or other flame aerosols and apparatus therefor)

IT Aerosols
(flame; process for production of carbon black or other flame aerosols and apparatus therefor)

IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(process for production of carbon black or other flame aerosols and apparatus therefor)

L59 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:13478 HCAPLUS Full-text
DN 142:57350
TI Carbon black as colorant for semiconductor sealant
IN Furuki, Noboru; Asaha, Osamu
PA Mitsubishi Chemical Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	JP 2005002273	A	20050106	JP 2003-169519	20030613	<--
PRAI	JP 2003-169519		20030613	<--		

AB The carbon black for elec. leak prevention in narrow wire distance in a semiconductor device, satisfies ≥25 μm- sieve residue 0-1 ppm. Thus, carbon black prepared by oil furnace method was bag-filtered, milled, classified, and jet-milled to have ≥25 μm-sieve residue ≤1 ppm. The resulting carbon black was mixed with biphenyl epoxy resin, phenolic novolak resin, and other additives to give a sealant showing good leak prevention effect.

IC ICM C09C0001-48
ICS C09C0003-04; H01L0023-29; H01L0023-31

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 76

ST carbon black size control semiconductor sealant
IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(biphenyl, novolak-crosslinked; carbon black with controlled size for semiconductor sealant with good elec. leak prevention)
IT Electric insulators
Electronic packaging materials
(carbon black with controlled size for semiconductor sealant with good elec. leak prevention)
IT Carbon black, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(carbon black with controlled size for semiconductor sealant with good elec. leak prevention)

L59 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:634326 HCAPLUS Full-text
DN 137:156006
TI Production and use of carbon black
IN Freund, Burkhard
PA Degussa AG, Germany
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1233042	A2	20020821	EP 2002-2820	20020208 <--
	EP 1233042	A3	20031001		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	DE 10107228	A1	20020905	DE 2001-10107228	20010216 <--
	CA 2372135	A1	20020816	CA 2002-2372135	20020213 <--
	US 20020156177	A1	20021024	US 2002-73345	20020213 <--
	US 6762236	B2	20040713		
	JP 2002322386	A	20021108	JP 2002-35689	20020213 <--
	JP 3839330	B2	20061101		
	BR 2002000478	A	20021008	BR 2002-478	20020215 <--
	HU 2002000589	A2	20021128	HU 2002-589	20020215 <--
	HU 2002000589	A3	20031229		
	KR 815066	B1	20080319	KR 2002-8161	20020215 <--
PRAI	DE 2001-10107228	A	20010216 <--		

AB Carbon black with sp. surface 10-35 m2/g, di-Bu phthalate absorption (DBPA) 40-180 mL/100 g, and aggregate size distribution (ΔD50) >340 nm, especially useful as a filler for rubber, is prepared from a gaseous or fluid precursor in a furnace having along its axis a burner zone, a reaction zone, and a quenching zone. Carbon black prepared from carbon black oil in such a furnace had sp. surface 20 m2/g, I number 16 mg/g, DBPA 141 mL/100 g, and ΔD50 576 nm. Use of the products as fillers for rubbers is exemplified, and a drawing of the furnace is included.
IC ICM C09C0001-50
ICS C08K0003-04
CC 39-9 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): 42
ST carbon black manuf use; oil combustion carbon black; furnace carbon black manuf; rubber filler

carbon black
IT Carbon black, properties
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(production and use of carbon black)
IT Fillers
(production of carbon black for filling of rubbers)
IT EPDM rubber
Rubber, uses
RL: POF (Polymer in formulation); USES (Uses)
(production of carbon black for filling of rubbers)

L59 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:464373 HCAPLUS Full-text
DN 135:62545
TI Inversion carbon blacks and method for their manufacture
IN Vogler, Conny; Vogel, Karl; Niedermeier, Werner; Freund, Burkhard; Messer, Paul
PA Degussa - Huls Aktiengesellschaft, Germany
SO U.S., 36 pp., Cont.-in-part of U.S. Ser. No. 289,185.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6251983	B1	20010626	US 1999-329313	19990610 <--
	DE 19839925	A1	19991014	DE 1998-19839925	19980902 <--
	US 6056933	A	20000502	US 1998-160143	19980925 <--
	EG 22412	A	20030129	EG 1999-365	19990407 <--
	ZA 9902644	A	19991008	ZA 1999-2644	19990409 <--
PRAI	DE 1998-19816025	A	19980409	<--	
	DE 1998-19839925	A	19980902	<--	
	US 1998-101772P	P	19980925	<--	
	US 1998-160143	A2	19980925	<--	
	US 1999-289185	A2	19990409	<--	

AB Inversion carbon black have the following properties: a particle size distribution curve with an absolute slope of less than 400,000 nm3, the absolute slope AS being determined from measured aggregate size distribution using a given formula, and, when incorporated in an SSBR/BR rubber compound, the carbon black results in the rubber compound satisfying the relation tan δ0 / tan δ60 >2.76-6.710-3CTAB, and results in the rubber compound having a tan δ60 value which is lower than that of a rubber compound incorporating an equivalent amount of a conventional ASTM carbon black having the same CTAB surface area and 24M4-DBP absorption value. The inversion carbon blacks have a lower rolling resistance with identical or improved wet skid behavior. The particle size distribution contains a smaller proportion of particles with large diams. This leads to an improved abrasion behavior of rubber compds. which were prepared using these carbon blacks. The inversion carbon blacks can be manufactured in conventional carbon black reactors by controlling the combustion in the combustion chamber in such a manner that carbon black nuclei form, which are immediately brought into contact with the carbon black raw material. The carbon blacks present a lower proportion of larger particles if the addns. of combustion air and carbon black raw material are increased in an appropriate manner.
IC ICM C08K0003-03
INCL 524496000

CC 39-9 (Synthetic Elastomers and Natural Rubber)
ST inversion carbon black manuf; tire rolling resistance wet skid
IT Tires
(inversion carbon blacks and method for their manufacture)
IT Butadiene rubber, uses
RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)
(inversion carbon blacks and method for their manufacture)
IT Carbon black, preparation
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(inversion; inversion carbon blacks and method for their manufacture)
IT Styrene-butadiene rubber, uses
RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)
(solution-polymerized; inversion carbon blacks and method for their manufacture)
IT 9003-17-2
RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)
(butadiene rubber, inversion carbon blacks and method for their manufacture)
IT 9003-55-8
RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)
(styrene-butadiene rubber, solution-polymerized; inversion carbon blacks and method for their manufacture)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1988			EP 0315442 B1	HCAPLUS
Anon	1991			WO 9113944 A	HCAPLUS
Anon	1991			WO 9113944	HCAPLUS
Anon	1994			EP 0608892 A	HCAPLUS
Anon	1994			DE 4308488 A	HCAPLUS
Anon	1995			DE 19521565	HCAPLUS
Boma, Y			434	KGK Kautschuk Gummi	
Davis, B	1996			European Rubber Jour	
Freund, B			444	KGK Kautschuk Gummi	
Freund, B			774	KGK Kautschuk Gummi	
Frohlich, J			370	KGK Kautschuk Gummi	
Gorsch, K	1997			Paper presented at a	
Gouglas, J	1989	22	3711	Macromolecules	
Gronski, W	1995	68	107	Mittwoch	
Grosch, K	1996		432	KGK Kaustschuk Gummi	HCAPLUS
Grosch, K			841	KGK Kautschuk Gummi	
Grosch, K	1987			Paper presented at t	
Heinrich, G	1995	68	26	Rubber Chemistry and	HCAPLUS
Lothas, S	1993		81	"Statistical Evaluat	
Luchow, H	1996	70	737	Rubber Chemistry and	
Maier, P			18	KGK Kautschuk Gummi	
Mouri, H	1997			Paper presented at t	
Muraki	1993			US 5179154	HCAPLUS
Niedermeier, W			799	KGK Kautschuk Gummi	
Niedermeier, W	1998		25	Tire Technology Inte	
Sotta, P	1996	29	6222	Macromolecules	HCAPLUS
Verlag, A	1990	43	1082	KGK Kautschuk Gummi	
Vogler	2000			US 6056932	HCAPLUS
Wolf, H	1990	43	1082	Kautschuk Gummi Kuns	HCAPLUS

L59 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:644160 HCAPLUS Full-text
DN 133:194019
TI Manufacture of conductive carbon black and apparatus therefor
IN Park, Yong-cha
PA Lg Chemical Ltd., S. Korea
SO Repub. Korea, No pp. given
CODEN: KRXXFC
DT Patent
LA Korean
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI KR 9612871	B1	19960925	KR 1993-31014	19931229 <--
PRAI KR 1993-31014		19931229 <--		

AB Conductive carbon black is manufactured by using creosote oil as a fuel and raw oil, limited use of pelletizing additive and growth controlling agent for carbon condensation structure, differentiation of cooling and pelletizing water, and using magnetic separator in the packing step hereafter distribution process. The carbon black has phys. properties of a nitrogen adsorption (BET) sp. surface area (ASTM D3037) of 40-50 m2/g, a di-Bu phthalate absorption number(ASTM D2414) of 155-165 cc/100 g, a nitrogen adsorption (BET) sp. surface area/dibutyl phthalate absorption number of 0.35 or below, with which the degree of difficulty in plastic applicable dispersion is closely connected. The total weight% of a sieve residue, carbon absorption water content, sulfur content and ash content is 1.2 or more.
IC ICM C09C0001-48
CC 37-6 (Plastics Manufacture and Processing)
ST carbon black conductive
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(conductive; manufacture of conductive carbon black and apparatus therefor)
IT Apparatus
(manufacture of conductive carbon black and apparatus therefor)

L59 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:632422 HCAPLUS Full-text
DN 133:194719
TI Process for manufacture of highly electroconductive carbon black and apparatus therefor
IN Park, Yong-cha
PA Lg Chemical Co., Ltd., S. Korea
SO Repub. Korea, No pp. given
CODEN: KRXXFC
DT Patent
LA Korean
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI KR 9609060	B1	19960710	KR 1993-17430	19930901 <--
PRAI KR 1993-17430		19930901 <--		

AB The carbon black has nitrogen adsorption sp. surface area of 150-160 m2/g, DBP absorption number of 130-150, and sieve residue of 0.003, sum of ash content and sulfur content of 0.5. The ratio of nitrogen adsorption sp. surface area to DBP absorption number is <1.2. The manufacture reactor consists of combustion area for supplying heat of reaction, a nozzle for supplying fuel

oil, a reaction area, a nozzle for supplying raw material and a quenching area for treating impurities.

IC ICM C09C0001-48
CC 42-6 (Coatings, Inks, and Related Products)
ST electroconductive carbon black manuf app
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(apparatus and method for manufacture of highly electroconductive carbon black)

L59 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:659103 HCAPLUS Full-text
DN 131:273052
TI Inversion carbon blacks and method for their manufacture
IN Vogler, Conny; Vogel, Karl; Niedermeier, Werner; Freund, Burkhard; Messner, Paul
PA Degussa-Huls Aktiengesellschaft, Germany; Degussa AG
SO Eur. Pat. Appl., 28 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 949303	A1	19991013	EP 1999-107015	19990409 <--
	EP 949303	B1	20041020		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19839925	A1	19991014	DE 1998-19839925	19980902 <--
	US 6056933	A	20000502	US 1998-160143	19980925 <--
	EG 22412	A	20030129	EG 1999-365	19990407 <--
	IN 1999CA00321	A	20051209	IN 1999-CA321	19990407 <--
	CA 2268675	A1	19991009	CA 1999-2268675	19990408 <--
	CA 2268675	C	20071211		
	HU 9901008	A2	19991129	HU 1999-1008	19990408 <--
	HU 9901008	A3	19991228		
	HU 221179	B1	20020828		
	MX 9903282	A	20000831	MX 1999-3282	19990408 <--
	CZ 298774	B6	20080123	CZ 1999-1225	19990408 <--
	PL 196825	B1	20080229	PL 1999-332442	19990408 <--
	ZA 9902644	A	19991008	ZA 1999-2644	19990409 <--
	AU 9923697	A	19991021	AU 1999-23697	19990409 <--
	AU 756346	B2	20030109		
	CN 1232842	A	19991027	CN 1999-104864	19990409 <--
	JP 11335585	A	19991207	JP 1999-103270	19990409 <--
	BR 9902038	A	20000411	BR 1999-2038	19990409 <--
	TR 9900767	A2	20000421	TR 1999-767	19990409 <--
	PT 949303	T	20050131	PT 1999-107015	19990409 <--
	ES 2226221	T3	20050316	ES 1999-107015	19990409 <--
	HR 990103	B1	20050430	HR 1999-103	19990409 <--
PRAI	DE 1998-19816025	A	19980409	<--	
	DE 1998-19839925	A	19980902	<--	
	US 1998-101772P	P	19980925	<--	
	US 1998-160143	A	19980925	<--	

AB Inversion carbon blacks and a method for their manufacture and disclosed. The inversion carbon blacks have a smaller rolling resistance with identical or improved wet sliding behavior. The particle size distribution contains a smaller proportion of particles with large diams. This leads to an improved

abrasion behavior of rubber compds. which were prepared using these carbon blacks. The inversion carbon blacks can be manufd . in conventional carbon black reactors by controlling the combustion in the combustion chamber in such a manner that carbon black nuclei form, which are immediately brought into contact with the carbon black raw material. The carbon blacks present a lower proportion of larger particles if the addns. of combustion air and carbon black raw material are increased in an appropriate manner.

IC ICM C09C0001-50
ICS C08K0003-04; C08L0021-00

CC 39-9 (Synthetic Elastomers and Natural Rubber)

ST furnace carbon black manuf tire reinforcement

IT Butadiene rubber, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(Buna CB 24; inversion carbon blacks and method for their manufacture)

IT Styrene-butadiene rubber, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(Buna VSL 5025-1; inversion carbon blacks and method for their manufacture)

IT Carbon black, preparation
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(furnace; inversion carbon blacks and method for their manufacture)

IT Tires
(inversion carbon blacks and method for their manufacture)

IT 9003-17-2
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(butadiene rubber, Buna CB 24; inversion carbon blacks and method for their manufacture)

IT 9003-55-8
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(styrene-butadiene rubber, Buna VSL 5025-1; inversion carbon blacks and method for their manufacture)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bridgestone Corp	1994			EP 0608892 A	HCAPLUS
Cabot Corp	1991			WO 9113944 A	HCAPLUS
Degussa	1997			DE 19521565 A	HCAPLUS
M M M S A	1994			DE 4308488 A	HCAPLUS
Muraki, T	1993			US 5179154 A	HCAPLUS

L59 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:202763 HCAPLUS Full-text
DN 124:236375
OREF 124:43713a,43716a
TI Reactor and process for manufacturing carbon black
IN Vogel, Karl; Meuser, Reinhold; Wunderlich, Armin
PA Degussa Aktiengesellschaft, Germany
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW

DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	EP 694591	A1	19960131	EP 1995-110389	19950704	<--
	EP 694591	B1	19990922			
	R: DE, FR, GB, IT, SE					
	DE 4427136	A1	19960201	DE 1994-4427136	19940730	<--
	US 5651945	A	19970729	US 1995-502638	19950714	<--
	JP 08060024	A	19960305	JP 1995-193826	19950728	<--
PRAI	DE 1994-4427136	A	19940730	<--		

AB The reactor, comprising a combustion chamber, a mixing chamber, and a reaction chamber, communicating with each other and longitudinally arranged along the axis of the reactor, and in which the mixing chamber is formed by a narrow passage through the wall between the combustion chamber and the reaction chamber, the combustion chamber provided with inlets for an O-containing gas, the mixing chamber provided with ≥1 nozzles for introducing the raw material gas, and the reaction chamber provided with >1 nozzles for quenching the reaction gases with water and terminating the formation of C black, the combustion chamber and the reaction chamber are addnl. connected by ≥1 passages next to the mixing chamber. This arrangement assures post-combustion of the raw material gas.

IC ICM C09C0001-50
CC 49-1 (Industrial Inorganic Chemicals)
ST carbon black reactor combustion
IT Reactors
(reactor for assuring post-combustion of raw material in carbon black manufacturing)
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(reactor for assuring post-combustion of raw material in carbon black manufacturing)

L59 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1993:542160 HCAPLUS Full-text
DN 119:142160
OREF 119:25453a,25456a
TI Manufacture of carbon black
AU Kuehner, Gerhard; Voll, Manfred
CS Degussa AG, Frankfurt/Main, Germany
SO Carbon Black (2nd Ed.) (1993), 1-66. Editor(s): Donnet, Jean-Baptiste; Bansal, Roop Chand; Wang, Meng-Jiao. Publisher: Dekker, New York, N. Y.
CODEN: 59IQAC
DT Conference; General Review
LA English
AB A review with 33 refs.
CC 49-0 (Industrial Inorganic Chemicals)
ST review carbon black manuf
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of)

L59 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1992:574478 HCAPLUS Full-text
DN 117:174478
OREF 117:30133a,30136a
TI Reactor and process for the manufacture of carbon black

IN Kuehner, Gerhard; Vogel, Karl; Rodriguez, Juan D.; Clement, Charles D.
PA Degussa A.-G., Germany
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 494068	A2	19920708	EP 1992-100003	19920102 <--
	EP 494068	A3	19920819		
	EP 494068	B1	19950726		
	R: DE, ES, FR, GB, IT, NL, PT, SE				
	US 5188806	A	19930223	US 1991-721765	19910628 <--
	JP 04277565	A	19921002	JP 1991-346398	19911227 <--
	JP 3071533	B2	20000731		
	KR 166972	B1	19990115	KR 1991-25273	19911230 <--
	ES 2074737	T3	19950916	ES 1992-100003	19920102 <--
	PL 168478	B1	19960229	PL 1992-293059	19920102 <--
PRAI	US 1991-635890	A	19910104	<--	
	US 1991-721765	A	19910628	<--	

AB The reactor comprises, from the upstream to the downstream end, a combustion chamber, a passageway tapered in downstream direction, and a quenching chamber on an (imaginary) central longitudinal axis. The upstream wall of the combustion chamber contains multiple, circularly arranged apertures for admission of the fuel-oxidant mixture To assure high turbulence, an impact wall with a central opening is arranged between the combustion chamber and the tapered section. The reactor produces high-quality carbon black, and is not subjected to a high degree of coking and spalling, and has long service life.

IC ICM C09C0001-50
CC 49-1 (Industrial Inorganic Chemicals)
ST carbon black reactor
IT Reactors
(design of, for carbon black manufacture, for high turbulence and decreased coking and spalling)
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, reactors for, for high turbulence and decreased coking and spalling)

L59 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1991:411702 HCAPLUS Full-text
DN 115:11702
OREF 115:2175a,2178a
TI Carbon black - manufacture and use
AU Kleinschmit, Peter
CS Zweigniederlassung Wolfgang, Degussa A.-G., Hanau, Germany
SO Erdoel, Erdgas, Kohle (1991), 107(1), 33-7
CODEN: EEKOEY; ISSN: 0179-3187
DT Journal; General Review
LA German
AB A review, with 13 refs., of the main manufacturing technologies for C black, emphasizing the leading role of the continuous furnace black process. Phys. and chemical properties and uses in the rubber industry and in other fields are discussed.
CC 49-0 (Industrial Inorganic Chemicals)
ST review carbon black manuf use
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(manufacture and uses of)

L59 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1987:601428 HCAPLUS Full-text
DN 107:201428
OREF 107:32299a,32302a
TI Reactor for the manufacture of carbon black by the thermal decomposition of liquid hydrocarbons in hot combustion gases
IN Schaefer, Gerhard; Kopietz, Peter
PA Kommanditgesellschaft Deutsche Gasrusswerke G.m.b.H. und Co., Fed. Rep. Ger.; Degussa A.-G.
SO Ger. Offen., 12 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	DE 3609847	A1	19870924	DE 1986-3609847	19860322	<--
	DE 3609847	C2	19900920			
	EP 239003	A2	19870930	EP 1987-103996	19870318	<--
	EP 239003	A3	19890412			
	EP 239003	B1	19920610			
	R: DE, ES, FR, GB, IT, NL					
	ES 2032766	T3	19930301	ES 1987-103996	19870318	<--
	CA 1317741	C	19930518	CA 1987-532669	19870320	<--
	JP 62265359	A	19871118	JP 1987-65907	19870323	<--
	JP 07078183	B	19950823			
	US 4904454	A	19900227	US 1988-229761	19880805	<--
	US 4970059	A	19901113	US 1989-425959	19891107	<--
PRAI	DE 1986-3609847	A	19860322	<--		
	US 1987-25762	B1	19870313	<--		
	US 1988-229761	A3	19880805	<--		

AB In the title reactors, consisting of (1) a refractory-lined, cylindrical combustion chamber provided with a device for feeding fuel and an O-containing gas, and ending at a narrow, e.g., a conical part, (2) a narrow part of differing lengths that is provided with an adjustable lance for spraying the raw material and (3) a cylindrical part where the C black is formed, and the end of which is provided with a cooling device, the axis of the combustion chamber and the narrowing part are in the same plane and preferably at an angle of 90°. In these reactors , the C black raw material is brought in contact with a hot, turbulent combustion gas that does not have an angular momentum. In this way the deposition of small droplets, and with it the coking thereof, is greatly reduced while the throughput may be increased by the use of O-enriched air. The reactor design is discussed and the operation is illustrated with 14 examples.

IC ICM C09C0001-50
CC 49-1 (Industrial Inorganic Chemicals)
Section cross-reference(s): 47
ST carbon black manuf app
IT Furnaces
(for carbon black manufacture, angular design for, for coking prevention)
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, furnace for)
IT Carbonization and Coking
(prevention of, carbon black manufacturing furnaces for)

L59 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1987:579409 HCAPLUS Full-text
DN 107:179409
OREF 107:28767a,28770a
TI High mixing carbon black reactor
IN Cheng, Paul Jih Tien
PA Degussa A.-G., Fed. Rep. Ger.
SO Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 232461	A1	19870819	EP 1986-113558	19861002 <--
	EP 232461	B1	19901017		
	R: CH, DE, ES, FR, GB, IT, LI, NL, SE				
	US 4729885	A	19880308	US 1986-828418	19860211 <--
	JP 62185762	A	19870814	JP 1986-267902	19861112 <--
	JP 06051848	B	19940706		
PRAI	US 1986-828418	A	19860211 <--		

AB In a C black reactor, a feedstock stream or a combustion gas stream is injected into a precombustion zone, in axial flow, through a nozzle concentric with the center line of the reactor, while the other liquid is injected through the annulet formed by several concentrically arranged nozzles surrounding the 1st nozzle. The velocity of the fluid flow through the 1st nozzle and the annulet is controlled to provide radially adjacent, axially flowing streams, with each stream having a flow velocity that is sufficiently dissimilar from each adjacent stream to create turbulence and rapid mixing of the streams. The addnl. turbulence in the reactor decreases the mixing time, thereby facilitating the formation of high-surface area C black.
IC ICM C09C0001-50
CC 49-1 (Industrial Inorganic Chemicals)
Section cross-reference(s): 47
ST carbon black reactor turbulent mixing
IT Reactors
(for preparation of high surface area carbon black, design of)
IT Carbon black, preparation
RL: PREP (Preparation)
(preparation of, with high surface area, reactor for)

L59 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1987:104697 HCAPLUS Full-text
DN 106:104697
OREF 106:17131a,17134a
TI Apparatus and process for producing carbon black
IN Henderson, Eulas Webb; Gravley, Mark Lee
PA Degussa A.-G., Fed. Rep. Ger.
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 209908	A2	19870128	EP 1986-110243	19860725 <--
	EP 209908	A3	19870923		
	EP 209908	B1	19940112		

R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE

US 4822588	A	19890418	US 1985-759376	19850726	<--
CA 1300343	C	19920512	CA 1986-510585	19860602	<--
ZA 8605276	A	19870325	ZA 1986-5276	19860715	<--
IN 165739	A1	19891230	IN 1986-CA537	19860717	<--
ES 2000744	A6	19880316	ES 1986-560	19860724	<--
BR 8603529	A	19870304	BR 1986-3529	19860725	<--
AT 100124	T	19940115	AT 1986-110243	19860725	<--
US 4824643	A	19890425	US 1987-50363	19870518	<--
PRAI US 1985-759376	A	19850726	<--		
EP 1986-110243	A	19860725	<--		

AB Carbon black reactors consist of a converging zone, a throat, a 1st reaction zone and a 2nd reaction zone serially connected. Oil can be injected both upstream and downstream of the throat. Annular walls connect the throat with the 1st reaction zone and the 1st reaction zone with the 2nd reaction zone. They operate in a stable manner and provide a final product, e.g., hard and soft blacks with low grit levels in high yields. In a pilot plant apparatus with a throat diameter of 1.7 in. and corresponding values for the other dimensions, oil 23.17 gal/h was combusted with 14,184 standard ft3/h air of 558° at 70 psig. C black with a d. of 4.83 lb/gal and 50.1% total C was obtained. The I number, CTAB, and 24 M4 values were 117, 113, and 107, resp. No grit (325 sieve) was present.

IC ICM C09C0001-50

CC 49-1 (Industrial Inorganic Chemicals)
Section cross-reference(s): 47, 51

ST carbon black manuf app

IT Combustion gases
(in carbon black manufacture)

IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, apparatus for)

IT Combustion
(of carbonaceous materials, for carbon black manufacture)

IT Carbonaceous materials
Hydrocarbon oils
RL: RCT (Reactant); RACT (Reactant or reagent)
(pyrolysis of, in carbon black manufacture, apparatus for)

IT Nozzles
(spray, in carbon black manufacturing apparatus)

IT 7782-44-7
RL: USES (Uses)
(combustion, of carbonaceous materials, for carbon black manufacture)

L59 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1986:36263 HCAPLUS Full-text

DN 104:36263

OREF 104:5927a

TI Refining commercial carbon blacks

IN Sosnowski, Alfred; Nowak, Tadeusz; Grzywaczewski, Tadeusz; Kukulski, Zygmunt; Pisarski, Hubert; Jedrus, Pawel

PA Zaklady Chemiczne "Tarnowskie Gory", Pol.

SO Pol., 2 pp.
CODEN: POXXA7

DT Patent

LA Polish

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	PL 126422	B1	19830831	PL 1979-214696	19790405 <--
PRAI	PL 1979-214696		19790405	<--	

AB Com. carbon black, especially channel black, is oxidized by adding 2-10 weight% urea hydroperoxide or mixture of urea and H2O2. The product is dried at 80-200°, calcined for 10-24 h at 250-500°, ground, sieved, and stored for 3-10 days. The oxidized black is especially suitable as a pigment for printing inks, paints, plastics, cosmetics, and fibers. Thus, 5 g urea hydroperoxide was added to 100 g carbon black. The mixture was stirred for 2 h, dried for 2 h at 150°, calcined for 2 h at 150°, ground, sieved through a screen (16,000 openings/cm2), and stored for 10 days. The product was 93 g oxidized black.

IC C09C0001-52

CC 49-1 (Industrial Inorganic Chemicals)

ST carbon black oxidized prepn; urea hydroperoxide oxidn carbon black; hydrogen peroxide urea carbon black oxidn

IT Carbon black, preparation
RL: PREP (Preparation)
(preparation of oxidized, for pigments)

IT 124-43-6
RL: USES (Uses)
(for oxidized carbon black prepn
.)

IT 57-13-6, uses and miscellaneous
RL: USES (Uses)
(mixture of hydrogen peroxide and, for oxidized carbon black preparation)

IT 7722-84-1, uses and miscellaneous
RL: USES (Uses)
(mixture of urea and, for oxidized carbon black preparation)

L59 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1984:613436 HCAPLUS Full-text

DN 101:213436

OREF 101:32339a,32342a

TI Agglomeration of dry and/or wet carbon black from arc discharge processes

IN Heinrich, Lothar; Schneider, August

PA Chemische Werke Huels A.-G. , Fed. Rep. Ger.

SO Ger. Offen., 9 pp.
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

PI	DE 3303399	A1	19840809	DE 1983-3303399	19830202 <--
	RO 88963	B3	19860430	RO 1984-113467	19840131 <--
	NO 8400383	A	19840803	NO 1984-383	19840201 <--
	ZA 8400776	A	19841031	ZA 1984-776	19840202 <--
PRAI	DE 1983-3303399	A	19830202	<--	

AB Dry and wet C black from the pyrolysis of hydrocarbons in an elec. arc to C2H4, C2H2, and CO are pelletized by being mixed with an aqueous suspension of 1-2% C black from the partial oxidation of hydrocarbons and an organic additive, e.g. light oil or petroleum distillation residue, the mixture is stirred at 80-160° and the C black-oil pellets are separated by sieving. Dry C black is wetted with gasoline or Bu2O before being mixed with the aqueous C black suspension, whereas wet C black does not require preliminary wetting.

IC C09C0001-58
CC 49-1 (Industrial Inorganic Chemicals)
ST carbon black oil pelletizing; hydrocarbon pyrolysis carbon black pelletizing
IT Carbon black, uses and miscellaneous
RL: USES (Uses)
(pelletizing of, by mixing with aqueous carbon black suspension and organic additives)
IT Hydrocarbons, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(pyrolysis of, in elec. arc, carbon black from, pelletizing of)
IT 74-85-1P, preparation 74-86-2P, preparation
630-08-0P, preparation
RL: PREP (Preparation)
(preparation of, by hydrocarbon pyrolysis, pelletizing carbon black from)

L59 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1983:145995 HCAPLUS Full-text
DN 98:145995
OREF 98:22231a,22234a
TI Removing extractable constituents from carbon black
IN Reck, Reinhold; Kuehner, Gerhard; Voll, Manfred; Kleinschmit, Peter
PA Degussa A.-G., Fed. Rep. Ger.
SO Ger. Offen., 23 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	DE 3118907	A1	19821202	DE 1981-3118907	19810513	<--
	DE 3118907	C2	19891019			
	US 4435378	A	19840306	US 1982-376051	19820507	<--
	FR 2505858	A1	19821119	FR 1982-8177	19820511	<--
	FR 2505858	B1	19851025			
	NL 8201930	A	19821201	NL 1982-1930	19820511	<--
	NL 191944	B	19960701			
	NL 191944	C	19961104			
	JP 57196713	A	19821202	JP 1982-79291	19820513	<--
	JP 05013888	B	19930223			
	GB 2101983	A	19830126	GB 1982-13905	19820513	<--
	GB 2101983	B	19840613			
	JP 04356565	A	19921210	JP 1991-247276	19910926	<--
	JP 07010955	B	19950208			
PRAI	DE 1981-3118907	A	19810513	<--		

AB Extractable substances are removed from C black in a fluidized bed by a gas stream at elevated temps. The extract-poor C black containing a toluene extract ≤1.5 weight% is treated with an O-containing gas in a fluidized bed at <320°. The extract-rich C black containing a toluene extract >1.5 weight% is treated in a fluidized bed (1) with steam at 100-320° and (2) with O-containing gas at 200-500°. The resulting C black is suitable for printing inks. Thus, C black having a Nigrometer index of 81, content of volatiles 7.6 weight%, toluene extract 5.5 weight%, and pH 6.2 was fluidized with steam 1.5 h at 250° and with air 1 h at 400°. The resulting C black had a content of volatiles, toluene extract, and pH 10.7 weight%, 0.06 weight%, and 5.2, resp.
IC C09C0001-56; B01D0011-02; C08K0003-04; C08K0009-00
CC 49-8 (Industrial Inorganic Chemicals)
Section cross-reference(s): 42, 57

ST carbon black extractable substance removal; fluidized bed carbon black refining; ink printing carbon black
IT Fluidized beds and systems
(for carbon black refining, removal of extractable substances in, for printing ink preparation)
IT Carbon black, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(pigments, for printing inks, removal of extractable substances from)
IT Inks
(printing, carbon black for, removal of extractable substances from)

L59 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1981:483083 HCAPLUS Full-text
DN 95:83083
OREF 95:14033a,14036a
TI Grit removal from carbon black
PA Mitsubishi Chemical Industries Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 56011963	A	19810205	JP 1979-88535	19790712 <--
JP 02003826	B	19900125		
PRAI JP 1979-88535	A	19790712 <--		

AB Carbon black is mixed with water to make a suspension of viscosity 1-100 P, screened by a vibration sieve vibrating at 1500-3000 Hz to remove grit, mixed with an organic solvent, and carbon black-containing organic phase is separated from water phase. Thus, carbon black was mixed with water, and the suspension of viscosity 5.6 P was screened by a vibration sieve at 2800 Hz, mixed with 6.3-6.7 L toluene /kg C black. Then, toluene containing carbon black was separated from water and heated to obtain carbon black having no grit.
IC C09C0001-56
CC 49-1 (Industrial Inorganic Chemicals)
ST carbon black grit removal
IT Carbon black, preparation
RL: PREP (Preparation)
(grit removal from)

L59 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1981:194358 HCAPLUS Full-text
DN 94:194358
OREF 94:31794h,31795a
TI Burner for producing carbon black
IN Kleinschmidt, Peter; Voll, Manfred; Engel, Richard
PA Degussa, Fed. Rep. Ger.
SO Ger. Offen., 10 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 2931907	A1	19810226	DE 1979-2931907	19790807 <--
DE 2931907	C2	19850801		

	JP 56026960	A	19810316	JP 1980-106474	19800804 <--
	JP 02031750	B	19900716		
	PL 128853	B1	19840331	PL 1980-226125	19800807 <--
	US 4434135	A	19840228	US 1982-352616	19820226 <--
PRAI	DE 1979-2931907	A	19790807	<--	
	US 1980-171204	A1	19800722	<--	

AB A burner that is easy to make, requires little attention, and has a long service life consists of a tubular combustion chamber of high-temperature resistant nonflammable material with a feed line to one end while the other end is closed, or has feed lines to both ends, which has slit-shaped polished openings in its wall which are directed at a cooled precipitating surface, usually in the form of a water- cooled rotating drum at a distance that ensures satisfactory flame quenching. The openings are arranged parallel to and at equal distances from each other and are at an angle of 45-135° to (preferably perpendicular) to the longitudinal axis. They are 0.4-1.0 mm wide and have a length-to-circumference ratio of 1:6 to 1:3, so that with a diameter of 60 mm they are 67-137 mm long. There are, e.g., 3-8 slits/m along the length of the chamber. The feed lines can also open up into the part of the tube provided with slits.

IC C09C0001-48
CC 49-1 (Industrial Inorganic Chemicals)
ST carbon black manuf burner
IT Burners
(for carbon black manufacture)
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, burner for)

L59 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1977:425202 HCAPLUS Full-text
DN 87:25202
OREF 87:3999a,4002a
TI Carbon black reactor
IN Cheng, Paul J.
PA Phillips Petroleum Co., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4013420	A	19770322	US 1975-580383	19750523 <--
PRAI	US 1975-580383	A	19750523	<--	

AB An O-type C black reactor is described, which consists of a cylindrically shaped precombustion section, a reaction section, means for introducing hydrocarbon feed into the reactor, and means for tangential introduction of hot combustion gas into the precombustion section and for withdrawal of C black-containing gas from the reaction section. Protrusions are provided on the upstream and downstream walls of the precombustion section. They are arranged and shaped in such a way so as to at least partially destroy the inwardly spiraling boundary layer flow of hot combustion gases along the walls and to convert some of this spiralling flow into turbulent flow.

IC C09C0001-48
INCL 023259500
CC 47-2 (Apparatus and Plant Equipment)
Section cross-reference(s): 49
ST carbon black reactor
IT Reactors

(for carbon black)
IT Carbon black, preparation
RL: PREP (Preparation)
(reactor for)

L59 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1974:465809 HCAPLUS Full-text
DN 81:65809
OREF 81:10495a,10498a
TI Natural gas in the manufacture of carbon black
AU Dittrich, G.
CS Degussa A.-G., Frankfurt/M., Fed. Rep. Ger.
SO Erdgas Rohst. Chem. Ind. Erzeug. Redaktionsgasen Huettenw., Symp. (1973), Meeting Date 1972, 14, 12 pp. Publisher: Komm. Gaserzeugung Int. Gas-Union, Karlsruhe, Ger.
CODEN: 28DOA9
DT Conference; General Review
LA German
AB A review with 7 refs.
CC 51-0 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 49
ST review carbon black natural gas
IT Carbon black, preparation
RL: PREP (Preparation)
(manufacture of, from natural gas)

L59 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1972:464071 HCAPLUS Full-text
DN 77:64071
OREF 77:10575a,10578a
TI Furnace black process in a model reactor
AU Kuehner, Gerhard; Dittrich, Gunther
CS Forsch. Chem., Degussa, Frankfurt/M., Fed. Rep. Ger.
SO Chemie Ingenieur Technik (1972), 44(11), 717-22
CODEN: CITEAH; ISSN: 0009-286X
DT Journal
LA German
AB Expts. on a small furnace black plant are described which permit quant. interpretation of the relations observed between yield of carbon black and the amts. of materials used (benzene as raw material; illuminating gas for heating; air) and between yield of carbon black and waste gas analyses. The degree of combustion of the heating gas is determined The sp. surface area of the resulting carbon black is discussed as a function of the O/benzene ratio employed, of the mean reactor temperature, and of the concentration of carbon black in the waste gases.
CC 49-1 (Industrial Inorganic Chemicals)
ST carbon black furnace
IT Simulation model
(for carbon black manufacture)
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, model for)

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L60 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2008:183284 HCAPLUS Full-text
DN 148:217879

TI Finely divided carbon black, method for manufacturing and device for performing the method
IN Quitmann, Catharina; Karl, Alfons; Katzer, Matthias; Krauss, Kai; Stanyschoefsky, Michael
PA Evonik Degussa GmbH, Germany
SO Eur. Pat. Appl., 13pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI EP 1887051	A2	20080213	EP 2007-112149	20070710	<--
EP 1887051	A3	20080319			
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU					
DE 102006037079	A1	20080214	DE 2006-102006037079	20060807	<--
CA 2596164	A1	20080207	CA 2007-2596164	20070803	<--
AU 2007203646	A1	20080221	AU 2007-203646	20070803	<--
KR 2008013758	A	20080213	KR 2007-78539	20070806	<--
JP 2008038153	A	20080221	JP 2007-204559	20070806	<--
SG 139719	A1	20080229	SG 2007-5719	20070806	<--
CN 101121829	A	20080213	CN 2007-10140015	20070807	<--
BR 2007003408	A	20080401	BR 2007-3408	20070807	<--
IN 2007KO01127	A	20080222	IN 2007-KO1127	20070814	<--
PRAI DE 2006-102006037079	A	20060807			

AB Finely divided carbon black suitable as a filler, UV-stabilizer, pigment or reducing agent having particle size distribution (d90 - d10)/d50 ≤1.1 surface oxides content ≥50 mmol/kg is made by carbonizing oil at 250 - 350° in the presence of a carrier gas which contains >50 volume % H2. A typical carbon black prepared at burning temperature 310° and H2 content 92 - 99 volume% has (d90 - d10)/d50 =0.57, BET surface area 93.1 m2/g, pH 3 and surface oxide content 130 mmol/kg.
CC 49-1 (Industrial Inorganic Chemicals)
Section cross-reference(s): 42
ST finely divided carbon black manuf
IT Fillers
Pigments, nonbiological
Reducing agents
UV stabilizers
(finely divided carbon black suitable as a filler, UV-stabilizer, pigment or reducing agent)
IT Carbon black, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(finely divided carbon black suitable as a filler, UV-stabilizer, pigment or reducing agent)
IT Aerosols
(flame; finely divided carbon black suitable as a filler, UV-stabilizer, pigment or reducing agent)

L60 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2007:145622 HCAPLUS Full-text
DN 146:231994
TI Carbon material
IN Luthge, Thomas; Mcintosh, Ralph; Tauber, Gerd; Kalbitz, Werner; Ludtke, Stephan; Fanghanel, Egon; Schukat, Gerd
PA Degussa AG, Germany
SO U.S. Pat. Appl. Publ., 9pp.
CODEN: USXXCO

DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	US 20070031319	A1	20070208	US 2006-497316	20060802	
	DE 102005037336	A1	20070208	DE 2005-102005037336	20050804	
	IN 2006KO00614	A	20070622	IN 2006-KO614	20060622	
	EP 1754756	A2	20070221	EP 2006-116774	20060707	
	EP 1754756	A3	20070404			
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU					
	SG 130103	A1	20070320	SG 2006-4982	20060726	
	MX 2006PA08615	A	20071206	MX 2006-PA8615	20060731	<--
	AU 2006203258	A1	20070222	AU 2006-203258	20060801	
	CA 2555923	A1	20070204	CA 2006-2555923	20060802	
	JP 2007045703	A	20070222	JP 2006-211277	20060802	
	CN 1908077	A	20070207	CN 2006-10108470	20060804	<--
	BR 2006003056	A	20070320	BR 2006-3056	20060804	
PRAI	DE 2005-102005037336	A	20050804			

OS MARPAT 146:231994
AB Carbon materials having organic groups, obtainable by the reaction of carbon material with organic compds. containing a benzene nucleus, are described. The carbon material may be carbon black, powdered graphite, carbon nanotubes, carbon fibers or fabrics or the like. The invention's carbon materials having organic groups are useful in dispersions, rubber, plastics, inks, including solvent-borne inks, waterborne inks, ink-jet inks, xerog. toners, coatings, paints, bitumen, concrete or other building materials, paper or as a reducing agent in metallurgy.
INCL 423447100; 423448000
CC 49-1 (Industrial Inorganic Chemicals)
IT Carbon black, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(carbon material having organic groups for use in dispersions, rubber, plastics, inks, paints, and building materials)

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FILE 'HCAPLUS' ENTERED AT 08:19:41 ON 11 SEP 2008

L1	1	S	US20070043157/PN OR (US2006-570424# OR WO2004-EP9439 OR DE200
		E	DEGUSSA/CO
		E	DEGUSS/CO
L2	5821	S	E4-E292/CO,PA,CS
		E	E23+ALL
		E	E1+ALL
L3	5815	S	E2,E30-E55,E61/CO,PA,CS
		E	DE GUSS/CO
L4	2	S	E4,E5/CO,PA,CS
		E	RIEBEL/AU
L5	44	S	E48-E50
		E	KATZER/AU
L6	20	S	E55-E58
		E	KRAUSS/AU
L7	2	S	E3

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                E KRAUSS K/AU
L8          25 S E3-E6
                E KARL/AU
L9          67 S E3-E6,E12
                E ALFONS/AU
L10          3 S E8,E9
                E BEHNISCH/AU
L11         71 S E13-E15
                E CARBON BLACK/CT
L12      62873 S E3-E44
L13      63471 S E3+OLD
                E E3+ALL
L14      97069 S CARBON BLACK
L15       6989 S (GAS OR FURNACE OR CHANNEL OR CHANNEL CARBON OR FLAME OR FLAM
L16       2584 S (C09C001-48 OR C09C001-50 OR C09C001-52)/IPC,IC,ICM,ICS,EPC
L17     100156 S L12-L16
L18        135 S FLAME AEROSOL
L19        162 S AEROSOL?/CW,CT (L) FLAME
L20       1347 S FLAME(L)AEROSOL
L21       1347 S L18-L20
                E AEROSOL/CT
                E E23+ALL
L22       2100 S E4+OLD,NT (L) FLAME
L23       3241 S L21,L22
L24     103352 S L17,L23
L25        195 S L24 AND BOUNDARY (L) ?LAYER?
L26         55 S L24 AND F23D/IPC,IC,ICM,ICS,EPC
L27        342 S L24 AND REACTOR?/CW,CT
                E REACTOR/CT
                E E10+ALL
L28        244 S L24 AND E2+OLD
L29        745 S L24 AND E2+NT
L30        350 S L24 AND E63+OLD,NT
L31          2 S L24 AND E64+OLD,NT
L32          4 S L24 AND E62+OLD,NT
L33          7 S L25 AND L27-L32
L34          1 S L25 AND L26
L35          7 S L33,L34
L36          2 S L35 AND CARBON BLACK
L37        336 S L1-L11 AND L24
L38          1 S L37 AND L25
L39          2 S L37 AND L26
L40         13 S L37 AND L27-L32
L41         13 S L38-L40
                SEL DN AN 3 9-13
L42          6 S L41 AND E1-E18
L43        323 S L37 NOT L41
                SEL AN DN 4 21 109 135 170 220 232 250 267 305 310
L44         11 S L43 AND E19-E51
L45        575 S L24 AND ?SIEV?
L46        311 S L45 AND (PREPAR? OR MANUF?)
L47        310 S L46 NOT L37
                SEL DN AN 99 142 143 218 222 239
L48          6 S L47 AND E52-E69
L49         24 S L1,L36,L42,L44,L48
L50         24 S L49 AND L1-L49
L51          9 S L50 AND C BLACK
L52         18 S L50 AND (GAS? OR O OR AIR OR FLAME OR HEAT? OR COOL? OR THERM
L53         24 S L50 AND (?STREAM? OR OXID? OR ?REACT? OR FURNAC? OR BURN? OR
L54         24 S L50-L53
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L55          23 S L54 AND (PREP? OR MANUF?)
L56          24 S L54,L55

     FILE 'HCAPLUS' ENTERED AT 09:17:19 ON 11 SEP 2008
L57           4 S L56 AND PY<=2003 NOT P/DT
L58          18 S L56 AND (PY<=2003 OR PRY<=2003 OR AY<=2003) AND P/DT
L59          22 S L57,L58
L60           2 S L56 NOT L59

=> => fil wpix
FILE 'WPIX' ENTERED AT 13:42:08 ON 11 SEP 2008
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MOST RECENT UPDATE:           200857     <200857/DW>
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    20071130/UPIC, 20080401/UPIC and 20080701/UPIC.
    ECLA reclassifications to June and US national classifications to
    the end of April 2008 have also been loaded. Update dates
    20080401 and 20080701/UPEC and /UPNC have been assigned to these. <<<

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http://www.stn-international.com/archive/presentations/DWPIAnaVist2_0608.pdf

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'BI ABEX' IS DEFAULT SEARCH FIELD FOR 'WPIX' FILE

=> d bib ab tech abex tot

L35  ANSWER 1 OF 13  WPIX COPYRIGHT 2008       THOMSON REUTERS on STN
AN   2005-286575 [30]   WPIX  Full-text
DNC  C2005-089276 [30]
TI   Producing carbon black or other flame
     aerosols comprises creating a thin boundary
     layer of gas between a flame and a
     cooling surface
DC   E36; G01; Q73; P75
IN   BEHNISCH J; KARL A; KATZER M; KRAUB K; KRAUSS K; RIEBEL U; ALFONS K
PA   (DEGS-C) DEGUSSA AG; (RIEB-I) RIEBEL U; (BEHN-I) BEHNISCH J; (KARL-I) KARL
     A; (KATZ-I) KATZER M; (KRAU-I) KRAUSS K
CYC  107
PIA  DE 10340884     A1 20050331 (200530)* DE  11[7]
     WO 2005033217   A1 20050414 (200530)  DE
     EP 1660594      A1 20060531 (200636)  DE
     KR 2006069484   A  20060621 (200675)  KO
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BR 2004014133 A 20061031 (200678) PT
MX 2006002244 A1 20060901 (200703) ES
CN 1845972 A 20061011 (200715) ZH
US 20070043157 A1 20070222 (200717) EN <--
JP 2007504308 W 20070301 (200718) JA 20
IN 2006KN00421 P2 20070525 (200746) EN

ADT DE 10340884 A1 DE 2003-10340884 20030904; BR 2004014133 A BR 2004-14133 20040824; CN 1845972 A CN 2004-80025273 20040824; EP 1660594 A1 EP 2004-764417 20040824; WO 2005033217 A1 WO 2004-EP9439 20040824; EP 1660594 A1 WO 2004-EP9439 20040824; KR 2006069484 A WO 2004-EP9439 20040824; BR 2004014133 A WO 2004-EP9439 20040824; US 20070043157 A1 WO 2004-EP9439 20040824; JP 2007504308 W WO 2004-EP9439 20040824; IN 2006KN00421 P2 WO 2004-EP9439 20040824; JP 2007504308 W JP 2006-525074 20040824; IN 2006KN00421 P2 IN 2006-KN421 20060223; US 20070043157 A1 US 2006-570424 20060302; KR 2006069484 A KR 2006-704420 20060303; MX 2006002244 A1 WO 2004-EP9439 20040824; MX 2006002244 A1 MX 2006-2244 20060227

FDT EP 1660594 A1 Based on WO 2005033217 A; KR 2006069484 A Based on WO 2005033217 A; BR 2004014133 A Based on WO 2005033217 A; JP 2007504308 W Based on WO 2005033217 A; MX 2006002244 A1 Based on WO 2005033217 A

PRAI DE 2003-10340884 20030904

AB DE 10340884 A1 UPAB: 20051222

NOVELTY - Producing carbon black or other flame aerosols comprises transferring heat from a flame to a cold solid or liquid surface by conduction and/or radiation, creating a thin boundary layer of gas between the flame and the cooling surface, accelerating or elongating the flow created by the flame and boundary layer to maintain laminary flow, withdrawing the resulting aerosol from the vicinity of the cold surface, and cleaning the cooling surface.

USE - Producing carbon black or other flame aerosols. The aerosols can be used e.g. to test filters, electrostatic separators or catalysts or to produce pigments or fillers.

ADVANTAGE - Unlike conventional gas black and channel processes, the carbon black is produced as an aerosol without being deposited on the cooling surface. DESCRIPTION OF DRAWINGS - The drawing shows a boundary layer created between a flame and a cooling surface at right angles to the axis of the flame. Cooling surface (1)
Boundary layer (5)
Flame. (10)

TECH

CHEMICAL ENGINEERING - Preferred Process: The boundary layer (5) is created by passing a gas stream between the flame (10) and the cooling surface (1) or by moving the cooling surface in the vicinity of the flame or by introducing a baffle plate between the flame and the cooling surface or by passing a gas or steam through openings or pores in the cooling surface or by evaporating a liquid on the cooling surface. The flame is located between two cooling surfaces with two boundary layers. The flame is cooled in a convergent slit or channel with cooling surfaces and boundary layers, or is cooled in a convergent slit between two rotating cylinders with cooling surfaces and boundary layers. The aerosol is removed with gas from a nozzle.
The flow rate at the narrowest point in the convergent slit is greater then the exit velocity of the flame from the burner. The flow rate at the narrowest point in the convergent slit is measured and

controlled through the pressure drop across the slit.
ABEX WIDER DISCLOSURE - An INDEPENDENT CLAIM is also included for apparatus for carrying out the above process, comprising a flame -generating device, a cooling surface mounted opposite the flame, and a device for creating a gaseous boundary layer between the surface and the flame .

L35 ANSWER 2 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 2004-261108 [25] WPIX Full-text
DNC C2004-102884 [25]
DNN N2004-207349 [25]
TI Catalyst for fuel-cell electrodes, contains electrode catalyst supported in carbon material having ionic functional group(s) in surface of primary particle of carbon black
DC A85; L03; X16
IN HAMADA A; NISHIZAWA N; TSUBOKAWA N
PA (SAOL-C) SANYO ELECTRIC CO LTD; (TSUB-I) TSUBOKAWA T
CYC 1
PIA JP 2004022346 A 20040122 (200425)* JA 19[11]
ADT JP 2004022346 A JP 2002-175843 20020617
PRAI JP 2002-175843 20020617
AB JP 2004022346 A UPAB: 20050528
NOVELTY - The catalyst contains an electrode catalyst supported in a carbon material (12A) having ionic functional group(s) in the surface of primary particle of carbon black.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:
(1) fuel-cell electrode;
(2) fuel cell; and
(3) carbon material.
USE - For electrode used in fuel cell (both claimed), such as solid polymer fuel cell.
ADVANTAGE - The catalyst contains carbon material excellent in electronic conductivity and proton conductivity. Since the number of three-phase boundary surface which functions as a reaction site increases, the utilization efficiency of the electrode catalyst becomes higher and high electrode activity is obtained. Variation in property is eliminated, and durability is improved. The hydrophilic and hydrophobic adjustment and control are eased.
DESCRIPTION OF DRAWINGS - The figure shows the explanatory drawing of the cross-section of electrode catalyst layer joined to a solid-polymer-electrolyte membrane. (Drawing includes non-English language text).
solid-polymer-electrolyte membrane (1) air electrode lateral-electrode catalyst layer (2)
carbon material (12A)
platinum-catalyst particle (13) electrode/membrane joint-conjugant (14)

L35 ANSWER 3 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 2003-293697 [29] WPIX Full-text
DNC C2003-076747 [29]
TI Purification of hydrogen containing gas from iron mill, involves adsorbing and removing impurities, cooling using several heat exchangers, and separating and refining hydrogen gas
DC E36; J01; M24
IN NAKAJIMA Y; SUGAWARA K
PA (KAWI-C) KAWASAKI STEEL CORP
CYC 1
PIA JP 2003012304 A 20030115 (200329)* JA 5[2]
ADT JP 2003012304 A JP 2001-196413 20010628
PRAI JP 2001-196413 20010628

AB JP 2003012304 A UPAB: 20050528
NOVELTY - The impurities in hydrogen containing gas from chemical conversion installation is adsorbed and removed. The gas is cooled using several heat exchangers (10a,10b) alternately, and the hydrogen gas is separated and refined.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for apparatus for purifying hydrogen containing gas, which has adsorption-removal installation, cooling installation (9) equipped with heat exchangers, and refiner for refining, separating and recovering hydrogen.
USE - For purifying hydrogen containing gas from chemical conversion installations such as iron mill and chemical plants.
ADVANTAGE - Hydrogen containing gas is easily purified without reducing hydrogen purification efficiency. The impurities adhering to the conduction region is decomposed and removed easily without completely suspending hydrogen gas purifier, by using several heat exchangers. The purifier is operated continuously without causing decrease in hydrogen purification efficiency.
DESCRIPTION OF DRAWINGS - The figure shows the flowchart for purifying hydrogen-containing gas. (Drawing includes non-English language text).
cooling installation (9)
heat exchangers (10a,10b)

TECH
INORGANIC CHEMISTRY - Preferred Process: In addition to water or vapor which is supplied to the inlet of the heat exchanger, a chemical agent for decomposing impurity is supplied.

ABEX EXAMPLE - A coke oven gas comprising nitrogen (in volume%) (8) having melting point of 221 degrees C and boiling point of 195.8 degrees C, methane (28) having melting point of -183 degrees C and boiling point of -161 degrees C, benzene (0.3-0.5) having melting point of 5.5 degrees C and boiling point of 80.2 degrees C, toluene (0.045-0.06) having melting point of -95 degrees C and boiling point of 111 degrees C, xylene (0.02-0.04) having melting point of 13 degrees C and boiling point of 138 degrees C, and water, nitrous oxide, oxygen and C4H6 was supplied to the hydrogen gas purifier. Benzene and xylene in the gas, precipitated in a heat exchanger (I) of the cooling installation of the purifier at a rate of 3360 m3-N/week. Without suspending the purifier, heat exchanger was switched and purification was performed. The heat exchanger (I) was washed during standby. The gas composition from the outlet of cooling installation comprised nitrogen (7.1), methane (23.22), benzene, toluene and xylene (0.5), and nitrogen oxide, oxygen and C4H6, and hydrogen gas was purified easily without reducing purification efficiency.

L35 ANSWER 4 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 2002-241348 [29] WPIX Full-text
CR 2002-216889
DNC C2002-072528 [29]
DNN N2002-186417 [29]
TI Deposition of polymer coating on substrate involves applying finely divided aerosol of polymer solution to the substrate and applying thermal energy to the applied polymer solution
DC A26; A82; G02; M13; P42; P73
IN DESHPANDE G; HUNT A T; HWANG T J; HWANG T J J; NEUMAN G; NEUMAN G A; OLJACA M; OLJARA M; PODA A; POLLEY T; SHANMUGHAM S; SHANMUGHAN S; YURTKURAN E J; HUNT A; HWANG T; YURTKURAN E
PA (DESH-I) DESHPANDE G; (HUNT-I) HUNT A T; (HWAN-I) HWANG T J; (MICR-N) MICRO COATING TECHNOLOGIES INC; (MICR-N) MICROCOATING TECHNOLOGIES INC; (NEUM-I) NEUMAN G; (NGIM-N) NGIMAT CO; (OLJA-I) OLJARA M; (PODA-I) PODA A; (POLL-I) POLLEY T; (SHAN-I) SHANMUGHAM S; (YURT-I) YURTKURAN E J

CYC 94
PIA WO 2002002320 A1 20020110 (200229)* EN 59[7]
AU 2001071638 A 20020114 (200237) EN
EP 1301341 A1 20030416 (200328) EN
US 20030215644 A1 20031120 (200377) EN
CN 1446148 A 20031001 (200382) ZH
IN 2002MN01876 P3 20050204 (200537) EN
US 6939576 B2 20050906 (200560) EN
CN 1217787 C 20050907 (200649) ZH
EP 1301341 B1 20060823 (200657) EN
ES 2269428 T3 20070401 (200726) ES
ADT WO 2002002320 A1 WO 2001-US20757 20010627; US 6939576 B2 Provisional US 2000-215280P 20000630; US 6939576 B2 Provisional US 2000-224674P 20000811; US 6939576 B2 Provisional US 2000-227837P 20000825; US 6939576 B2 Provisional US 2000-252311P 20001121; AU 2001071638 A AU 2001-71638 20010627; CN 1446148 A CN 2001-812014 20010627; CN 1217787 C CN 2001-812014 20010627; EP 1301341 A1 EP 2001-950670 20010627; EP 1301341 B1 EP 2001-950670 20010627; EP 1301341 A1 WO 2001-US20757 20010627; US 20030215644 A1 WO 2001-US20757 20010627; IN 2002MN01876 P3 WO 2001-US20757 20010627; US 6939576 B2 WO 2001-US20757 20010627; EP 1301341 B1 WO 2001-US20757 20010627; US 20030215644 A1 US 2002-311785 20021218; US 6939576 B2 US 2002-311785 20021218; IN 2002MN01876 P3 IN 2002-MN1876 20021224; ES 2269428 T3 EP 2001-950670 20010627
FDT AU 2001071638 A Based on WO 2002002320 A; EP 1301341 A1 Based on WO 2002002320 A; US 6939576 B2 Based on WO 2002002320 A; EP 1301341 B1 Based on WO 2002002320 A; ES 2269428 T3 Based on EP 1301341 A
PRAI US 2000-252311P 20001121
US 2000-215280P 20000630
US 2000-224674P 20000811
US 2000-227837P 20000825
US 2002-311785 20021218
AB WO 2002002320 A1 UPAB: 20060119
NOVELTY - A polymer coating is deposited on a substrate by providing a fluid that is a dispersion or solution of the polymer or a precursor of the polymer in a liquid medium, forming a finely divided aerosol of the fluid, applying the aerosol to the substrate surface to coat the surface with the fluid, and applying thermal energy to the fluid to remove the liquid medium and produce the coating.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (A) a thin layer comprising a homogeneous mixture of a polymer and an inorganic material of nitrides, carbides, borides, metal oxides, metalloid oxides, mixtures of metal oxides, mixtures of metalloid oxides, or mixtures of metal and metalloid oxides;
(B) a multilayer laminate comprising at least two layers of polymeric material of 10-1,000 nm thickness and inorganic oxide layer(s) of 10-1,000 nm thickness; (C) an apparatus for depositing material on a substrate comprising a liquid fluid source, atomizer for atomizing the liquid fluid and directing the atomized fluid at a first location on the substrate to deposit the fluid, and heated gases source directly at first location on the substrate or a second location closely adjacent the first location, in the heated gases have a physical and/or chemical effect on the deposited fluid; (D) a polyimide/polyamide film comprising an adhesion promoter chemical having at least one chemical moiety with affinity for amide bonds of the film and at least one chemical moiety with affinity for -OH groups; and
(E) a process for preparing a dielectric layer comprising depositing a thin polymer layer on the thin film metal oxide and/or metalloid oxide layer in which the polymer layer fills any defects in the thin film metal oxide and/or metalloid oxide layer.
USE - Depositing a polymer coating on a substrate.

ADVANTAGE - The application of the thermal energy source to the layer deposited by the fine solution provides a very uniform polymer coating on the substrate. The process enables the materials to be deposited without excessively altering the properties or decomposing the materials. It causes the coating to densify with no dripping and more material sticking to the substrate surface.

TECH

MECHANICAL ENGINEERING - Preferred Components: The thermal energy source is a flame.
Preferred Process: The polymer is deposited to form a thin film coating of at most50 (preferably at most10) micron thick. The flame co-deposits an oxide, clay or metal material along with the fluid. It is produced from a solution of finely divided particular material. A layer of the inorganic material from the flame is deposited prior to the deposition of the polymer coating or subsequent to depositing the polymer coating. The thermal energy is supplied from the flame produced by burning a flammable fluid containing a precursor chemical for a catalyst promoting conversion of polyamic acid to polyimide/amide or their mixture. The thermal energy is provided by disposing the flames in surrounding relationship to the aerosol. The substrate may coated by providing an oligomer solution containing a polymerizable polysiloxane oligomer composition dissolved in carrier solvent and a precursor fluid of oxidizable silica precursor dissolve in carrier liquid. A seed layer of platinum is deposited on the substrate prior to the deposition of the polysiloxane.
Preferred Dimensions: The aerosol has a mean droplet size of at most10 (preferably at most1) microns. The particulates of the polymer has a mean particle size of at most0.5 microns.
POLYMERS - Preferred Components: The deposited polymer is polymethylmethacrylate, polyethylene glycol, polyacrylic acid, polyester, polyaniline and/or polyolefin, or preferably polyamide, polysiloxane or polyepoxide. It can be polyamide/imide, cross-linking epoxy resin, polysiloxane, polyurethane or polytetrafluoroethylene. It can be a mixture of poly(meth)acrylate and poly(meth)acrylic acid, poly(meth)acrylate and polystryrene, poly(meth)acrylate and epoxy, or polyimide and epoxy. The polymer-containing fluid contains finely divided particulate matter. The catalyst precursor chemical comprises a precursor for platinum. The inorganic material/polymer weight ratio is 1:99-99:1. The concentration of the polymer is at most1 wt.% based on the weight of the liquid in the suspension. The polymer is a liquid crystalline polymer.
INORGANIC CHEMISTRY - Preferred Materials: The inorganic material may include strontium titanate, barium titanate, barium strontium titanate, phosphates, borates or carbonates. The oxides comprises silica or metal oxide. The oxide layer is dense or porous having a porosity of 5-60% The substrate can be metal. The catalyst comprises platinum or platinum-containing compound, tin oxide, zinc oxide, ceria or titania.
ORGANIC CHEMISTRY - Preferred Components: The oligomer is of formula (I) or (II).

CH2=CH-(Si(R)2-O)n-CH=CH2 (I)

Si(R1)3-(S(H)(R)-O-)n-Si(R1)n (II). The oligomer solution has 200-500 ppm based on total weight of (I), (II) and allyltriaklylsilane of formula (III).

CH2=CH-Si(O-R2)3 (III)

R and R1 = 1-3C alkyl or phenyl; and
n = 2-10.
Preferred Ratio: The weight ratio of (I)/(II) is 25:1-1:1 (preferably 15:1-5:1).
CERAMICS AND GLASS - Preferred Substrate: The substrate can be glass.

TEXTILES AND PAPER - Preferred Substrate: The substrate can be paper.
ABEX EXAMPLE - A flame solution containing 26.4 g tetraethoxysilane (2.1 wt.% silicon in toluene), 50.5 g technical grade toluene, and 200 g propane was prepared and flame deposited on substrate. The flame deposition was performed at 500degreesC for 15 minutes, 3 mL/min flow, 22 psi oxygen pressure and 2.8 amp variac. The coating from the deposition process was evaluated and results showed that the deposition had run well, anti-glare of the coating was great and had very slight boundary.

L35 ANSWER 5 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 2001-303245 [32] WPIX Full-text
DNC C2001-093227 [32]
TI Carbon black manufacturing method involves circulating cooling medium along flow line formed in periphery of choke portion so that film condensation coefficient of site contacted with choke portion is set to specific value
DC E36; G01; H08
IN MISE N; YAMAMOTO T
PA (MITU-C) MITSUBISHI CHEM CORP
CYC 1
PIA JP 2000345069 A 20001212 (200132)* JA 13[8]
ADT JP 2000345069 A JP 2000-96754 20000331
PRAI JP 1999-94514 19990401
AB JP 2000345069 A UPAB: 20050525
NOVELTY - A choke portion (2) with cooling medium flow line (9) along periphery, is formed in downstream side of primary reaction chamber (1). Cooling medium is circulated along flow line so that film condensation coefficient of the site in flow of line contacted with choke portion is more than 200Kcal/m2hrdegreesC.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for carbon block manufacturing apparatus.
USE - To manufacture carbon black used as pigment for reinforcing material, packing material and as weather resistant improving agent, etc.
ADVANTAGE - Since the choke section is protected from the hot oxidizing combustion gas by the supply of cooling medium along flow line formed in its periphery, carbon black of high quality is obtained stably. DESCRIPTION OF DRAWINGS - The figure shows the cross-sectional outline of carbon black manufacturing apparatus. Reaction chamber (1)
Choke portion (2)
Flow line (9)

L35 ANSWER 6 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1992-134331 [17] WPIX Full-text
DNC C1992-062768 [21]
DNN N1992-100260 [21]
TI Furnace and linings for carbon@ black for tyres - has refractory oxide(s) with layered structures based on zirconia and alumina
DC A60; A95; E36; G01; H08; Q77
IN NAKAI K
PA (TOJW-C) TOKAI CARBON KK
CYC 2
PIA FR 2666084 A 19920228 (199217)* FR 19
JP 04103670 A 19920406 (199220) JA 6
JP 2976209 B2 19991110 (199953) JA 6
ADT FR 2666084 A FR 1991-10524 19910822; JP 04103670 A JP 1990-222039 19900823; JP 2976209 B2 JP 1990-222039 19900823
FDT JP 2976209 B2 Previous Publ JP 04103670 A

PRAI JP 1990-222039 19900823
AB FR 2666084 A UPAB: 20050504
Furnace for the C black prodn has internal walls of the combustion zone and part of the internal wall of the reaction zone made of a ceramic material from following gps. Gp A is a zirconia and Hf oxide-based refractory material in layers of zirconia and partially stabilised Hf oxide, each layer contg chalk, magnesia, yttria or ceria. Gp B is layers of zirconia-based refractory material stabilised with yttria with layers of chalk-stabilised zirconia Gp C is a refractory material with layers of alumina and yttria. Furnace has a combustion zone, a reaction zone with a small dia. section downstream of the combustion zone and a reaction-end zone. Gas jet using fuel oil and a feedstock oil introduced into the reaction zone produces C black by thermal decomposition, which is then sharply cooled in the reaction-end zone. ADVANTAGE - C black is used for high performance automobile tyres has improved abrasion resistance and has a high specific surface and colouring power. Ceramic can resist reaction temps of above 2000 deg C and remain in good condition.

L35 ANSWER 7 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1987-072150 [10] WPIX Full-text
DNC C1987-030152 [21]
DNN N1987-054642 [21]
TI Atomising nozzle for oil stream with air - in which several oil streams are directed outwardly from oil stream into annularly shaped gas stream
DC E36; G01; H08; J02; P42; Q73
IN LAHEYNE C; TERRADE F
PA (DEGS-C) DEGUSSA AG; (PHIP-C) PHILLIPS PETROLEUM CO
CYC 13
PIA US 4645129 A 19870224 (198710)* EN 8[3]
EP 232495 A 19870819 (198733) EN 12
ZA 8608810 A 19870520 (198735) EN
BR 8605856 A 19870825 (198739) PT
CN 86107989 A 19870902 (198841) ZH
ES 2000101 A 19871201 (198911) ES
EP 232495 B 19891004 (198940) EN
DE 3665997 G 19891109 (198946) DE
ES 2000101 B 19900201 (199010) ES
ADT US 4645129 A US 1985-804953 19851205; ZA 8608810 A ZA 1986-8810 19861120; EP 232495 A EP 1986-116704 19861202
PRAI US 1985-804953 19851205
AB US 4645129 A UPAB: 20050424
Method, and appts. for forming atomisate with a nozzle, by directing a number of oil streams outwardly from an oil stream into an angularly shaped gas stream forming a mixture of oil and gas by (a) directing separate streams of the mixture inwardly for impingement with one another to form an atomisate; and (b) directing the atomisate outwardly in separate streams from the nozzle. In the production of 'soft' carbon blacks e.g. with surface areas of 20-75 m2/g, low combustion gas velocities in the reactor sometimes previously allowed penetration of the feedstock from the axial spray head to the reactor wall, resulting in the production of undesirable grit in the carbon black prod. The method further comprises flowing the mixture through an annularly shaped mixing chamber in the nozzle; and flowing the atomisate through a diverging passage and into an atomising chamber in the nozzle prior to directing the atomisate outwardly in separate streams from the nozzle. The gas stream comprises air and the oil stream has been heated. The atomisate is formed with 15-25 kg of oil residuum or extract for each NM3 of air. ADVANTAGE - Consumption of atomising gas is reduced approximately 50 percent.

L35 ANSWER 8 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1986-340355 [52] WPIX Full-text
DNC C1986-147492 [21]
TI Carbon black reactor - with finned cooling tubes welded and refractory embedded to form combustion chamber
DC E36; G01; H08; Q73
IN RUDOLF W
PA (BERA-N) BERA ANSTALT
CYC 22
PIA EP 205904 A 19861230 (198652)* DE 13[5]
JP 61271357 A 19861201 (198702) JA
AU 8657807 A 19861127 (198703) EN
NO 8602032 A 19861215 (198705) NO
BR 8602349 A 19870121 (198709) PT
ZA 8603855 A 19861119 (198709) EN
FI 8602147 A 19861124 (198711) FI
DK 8602434 A 19861124 (198718) DA
ES 8703749 A 19870516 (198725) ES
CN 86103538 A 19861119 (198742) ZH
DD 258823 A 19880803 (198848) DE
HU 48663 T 19890628 (198930) HU
ADT EP 205904 A EP 1986-106688 19860516; ZA 8603855 A ZA 1985-3855 19850523; JP 61271357 A JP 1986-113835 19860520; ES 8703749 A ES 1986-555301 19860523
PRAI CH 1985-2195 19850523
AB EP 205904 A UPAB: 20050426
Carbon black is produced in a vertical reactor with a reactor cover in which air and hydrocarbons are injected in dosed quantities. The reactor space is bounded on the sides by a tubular structure which is passed by a coolant and represents with the cooled cover the combustion chamber. The finned tubes of this structure carry a refractory lining on the inside inside.
ADVANTAGE - This reactor design eliminates any thermal overheating or overstressing of the reactor and does not require the direct injection of water in the carbon black gas.

L35 ANSWER 9 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1982-13665E [07] WPIX Full-text
CR 1980-73357C
TI Carbon black reactor - has radial gas feed to counteract boundary layer formed by tangential introduction of combustion gas
DC A60; E36; G01; H08
IN CHENG P J
PA (PHIP-C) PHILLIPS PETROLEUM CO
CYC 1
PIA US 4313921 A 19820202 (198207)* EN 18
ADT US 4313921 A US 1974-498776 19740819; US 4313921 A US 1978-895430 19780412; US 4313921 A US 1980-135607 19800331
AB US 4313921 A UPAB: 20050420
In the pyrolytic decomposition of hydrocarbons to produce C black, hydrocarbons are introduced along the axis of a tubular reactor and combustion gases are introduced tangentially into the reactor close to an upstream confining wall to form a vortex of hot combustion gases spinning around the hydrocarbon feed. Gas is introduced parallel to the confining wall and in a radially outward direction into the reactor so as to counteract a radially inwardly directed boundary layer flow caused by the tangentially introduced hot combustion gases and to reduce the pressure drop through the reactor. Used for production of high structure C black.

L35 ANSWER 10 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1980-73357C [41] WPIX Full-text
TI Carbon black reactor - has cylindrical housing with tangential and radial feed of combustion gases
DC A60; E36; G01; H08
IN CHENG P J
PA (PHIP-C) PHILLIPS PETROLEUM CO
CYC 1
PIA US 4224284 A 19800923 (198041)* EN
ADT US 4224284 A US 1974-498776 19740819; US 4224284 A US 1978-895430 19780412; US 4224284 A US 1980-134856 19800328; US 4224284 A US 1980-135607 19800331
PRAI US 1978-895430 19780412
AB US 4224284 A UPAB: 20060103
Reactor comprises a cylindrical housing having an upstream confining orthogonal to the longitudinal axis and a downstream wall with an outlet for the withdrawal of C black containing smoke. Hydrocarbons feed is introduced axially into the housing, a first stream of combustion gases are fed tangentially into the housing through it cylindrical wall and a second stream of combustion gases are introduced radially into the housing through nozzles in the upstream confining wall. Second stream of combustion gases prevents the first stream of combustion gases flowing radially inwardly as a boundary layer at the upstream confining wall and causing premature mixing of the gases with the hydrocarbon feed.

L35 ANSWER 11 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1977-23417Y [13] WPIX Full-text
TI O-Type carbon black reactor - with turbulence creating protrusions on walls of precombustion section
DC E36; G01; H08
IN CHENG P J
PA (PHIP-C) PHILLIPS PETROLEUM CO
CYC 1
PIA US 4013420 A 19770322 (197713)* EN
ADT US 4013420 A US 1975-580383 19750523
AB US 4013420 A UPAB: 20050417
The reactor comprises a cylindrical pre-combustion section communicating with and in axial alignment with a reaction section, the precombustion section having a greater dia. than the dia. of the reaction section. Attached to the upstream and downstream walls confining the precombustion section are turbulence-creating protrusions arranged and shaped to destroy the inwardly spiralling boundary layer flow of the hot combustion gases and to convert this flow into turbulent flow.
Increasing the turbulence of the flow of hot combustion gases leads to a narrower particle size distribution of the carbon black without sacrificing other valuable properties e.g. surface area.

L35 ANSWER 12 OF 13 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1973-18624U [14] WPIX Full-text
TI Carbon black prodn plant - with cooled burner/injector nozzle
DC G01; H04; Q73
PA (COCC-C) CONTINENTAL CARBON CO
CYC 3
PIA DE 2144250 A (197314)* DE
NL 7113262 A (197316)# NL

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     FR 2161847       A            (197339)  FR
     DE 2144250       B  19750731 (197532)  DE
     NL 174671        B  19840216 (198410)# NL
ADT  DE 2144250 A DE 1971-2144250 19710903; NL 7113262 A NL 1971-13262
     19710927; NL 174671 B NL 1971-13262 19710927
AB    DE 2144250 A   UPAB: 20050414
      The outer, elongated, tubular reactor has an arrangement of coaxial pipes
      forming the injector/burner assembly passed centrally through its upstream end
      wall, the central tube for feed stock having a discharge nozzle at the
      downstream end surrounded by annular fuel and combustion air nozzles. A double
      walled jacket with a closed end near the nozzle, surrounds the feed stock pipe
      and has a medium tube leaving a narrow gap at the sealed end, external unions,
      for coolant, inlet and outlet being fixed to the outer and medium tubes as
      well as an expansion joint. Within the space between outer and medium tubes is
      a spiral spacer which also acts as turbulator. Improved yield and quality.


L35  ANSWER 13 OF 13  WPIX COPYRIGHT 2008       THOMSON REUTERS on STN
AN   1968-83551P [00]    WPIX  Full-text
TI   Carbon black furnace with device for controlling
DC   A60; E36; G01; H08; Q73
PA   (COCC-C) CONTINENTAL CARBON CO
CYC  2
PIA  GB 1068178      A            (196800)* EN
     NL 145266       B  19750317 (197516)  NL
     NL 7504426      A  19750731 (197533)  NL
     NL 159430       B  19790215 (197910)  NL
PRAI US 1963-268382      19630327
     US 1962-234032      19621030
AB    GB 1068178 A   UPAB: 20050413
      Carbon black furnace with improved combustion aid device for controlling the
      manner of introduction of combustion air to the reaction zone to regulate the
      flame pattern or cracking conditions.
      High abrasion resistant rubber grade carbon blacks are produced.



=> => d his

     (FILE 'HOME' ENTERED AT 12:59:18 ON 11 SEP 2008)
               SET COST OFF

     FILE 'WPIX' ENTERED AT 12:59:27 ON 11 SEP 2008
               ACT RUMP570WPIX/A
               ---------
L1   (     97069)SEA FILE=HCAPLUS ABB=ON  PLU=ON  CARBON BLACK
L2   (      6989)SEA FILE=HCAPLUS ABB=ON  PLU=ON  (GAS OR FURNACE OR CHANNEL OR
L3   (     47360)SEA FILE=WPIX ABB=ON  PLU=ON  L1 OR L2
L4   (      6599)SEA FILE=WPIX ABB=ON  PLU=ON  C BLACK/BI,ABEX
L5   (        11)SEA FILE=WPIX ABB=ON  PLU=ON  FLAME AEROSOL/BI,ABEX
L6   (       402)SEA FILE=WPIX ABB=ON  PLU=ON  FLAME/BI,ABEX(L)AEROSOL/BI,ABEX
L7   (      2268)SEA FILE=WPIX ABB=ON  PLU=ON  (C09C001-48 OR C09C001-50 OR C09C
L8   (      8566)SEA FILE=WPIX ABB=ON  PLU=ON  (E31-N03 OR E31-N03B)/MC
L9         59433 SEA FILE=WPIX ABB=ON  PLU=ON  (L3 OR L4 OR L5 OR L6 OR L7 OR L8
               ----------
L10           73 S L9 AND ?BOUNDARY? (L) ?LAYER?
L11          889 S L9 AND GAS?(L)?STREAM?
L12         4330 S L9 AND AIR
L13          132 S L9 AND F23D/IPC,IC,ICM,ICS
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L14          98 S L13 AND L10-L12
L15          13 S L10 AND L11,L12
L16           6 S L15 AND CARBON BLACK/TI
L17          60 S L10 NOT L15
L18           3 S L17 AND THERMAL ENERGY
L19           1 S L18 AND AEROSOL/TI
L20          97 S L14 NOT L15-L19
L21           3 S L20 AND (1987-072150 OR 1973-18624U OR 1968-83551P)/AN
L22         707 S L9 AND ?SIEV?
L23         122 S L22 AND L12
L24          17 S L22 AND L11
L25           2 S L22 AND L10
L26         131 S L23,L24 NOT L14-L21
L27          10 S L16,L19,L21
L28           1 S US20070043157/PN OR (US2006-570424# OR WO2004-EP9439 OR DE200
L29         269 S (Q411(L)N104(L)M720)/M0,M1,M2,M3,M4,M5,M6
L30         107 S (Q411(L)N104(L)M720(L)(M424 OR M740))/M0,M1,M2,M3,M4,M5,M6
L31           7 S L30 AND COOL?/TI
L32           4 S L31 NOT (SCREW OR JACKET OR WATER)/TI
L33          13 S L27,L28,L32
L34          13 S L33 AND L9-L33
L35          13 S L34 AND (AIR OR O OR OXID? OR OXYGEN? OR GAS? OR SPACE OR ?LA

     FILE 'WPIX' ENTERED AT 13:42:08 ON 11 SEP 2008

     FILE 'TULSA' ENTERED AT 13:43:24 ON 11 SEP 2008
L36          15 S (GAS OR FURNACE OR CHANNEL OR CHANNEL CARBON OR FLAME OR FLAM
L37         195 S (C OR CARBON)()BLACK
L38         218 S CARBON (1W) BLACK
L39           0 S FLAME AEROSOL
L40          16 S FLAME(L)  AEROSOL
L41         241 S L36-L40
L42         195 S L41 AND CARBON BLACK
L43          46 S L41 NOT L42
                E C09C/IC
L44           4 S E3-E8
                E C09C/ICM
L45           2 S E3-E5
                E C09C/ICS
L46           3 S E3-E8
L47           4 S L44-L46

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